APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/492,561	01/27/2000	Regis J. Crinon	Tal:7146.042	1024

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ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.		Applicant(s)	
Office Action Summary	09/492,561		CRINON, REGIS J.	
	Examiner		Art Unit	
	Andrew Y Koenig		2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 April 2004</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28 and 31-35* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28 and 31-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Contination from attachments: 3) IDS - paper 11, mailed 16 June 2004

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1-28 and 31-35 have been

considered but are moot in view of the new ground(s) of rejection.

Specification

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they

include the following reference sign(s) not mentioned in the description: all reference

numbers (100-141) in figures 5-7. A proposed drawing correction, corrected drawings,

or amendment to the specification to add the reference sign(s) in the description, are

required in reply to the Office action to avoid abandonment of the application. The

objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent 5,559,999 to Maturi et al. (Maturi) in view of U.S. Patent 5,521,927 to

Kim et al. (Kim) and U.S. Patent 6,357,042 to Srinivasan et al. (Srinivasan).

Regarding claim 1, Maturi teaches instigating an event such as synchronizing the audio with the video (Abstract). Maturi teaches a system time clock (STC) located and provided in the decoder, a system clock reference (SCR) as used in MPEG-I or Program Clock Reference (PCR) as used in MPEG-II which is the clock reference given by the encoder (col. 2, II. 14-22). Along with the time clocks, Maturi teaches a Presentation Time Stamp (PTS) which indicates the proper presentation of data (col. 1, II. 62-65). Maturi teaches an audio/video decoder as shown in figure 1, which generates a reconstructed application includes time to initiate the event (col. 7, II. 28-36). The time to initiate the event (claimed application time moment) is a function of STC (claimed current moment of a system time), a PTS (claimed sampled application time moment), and decoding time stamp (DTS) which is associated with a sampled moment of a system time associated with sample application time moment. Further, Maturi teaches performing the action once the time is less than one frame time interval different (col. 7, II. 37-40).

Maturi teaches an application time moment as a function of STC, however, Maturi is silent on the moment being based in part upon a delay in the packetization process. In analogous art, Kim teaches adding an offset corresponding to the interval between a coding start time point in the encoder and a time point that a stamp is coded in the transport stream (col. 4, II. 17-24), which reads on a delay in the packetization process. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maturi by using an offset based in part upon a

delay in the packetization process as taught by Kim in order to enable precise

synchronization among streams.

Maturi teaches the events being audio and video, but is silent on an event apart

from reconstructing video and audio. In analogous art, Srinivasan teaches integrating

an event, such as host spots and interactive regions (col. 37, ll. 3-6) in order to present

metadata during a frame or series of frames (col. 37, ll. 35-41). Therefore, it would

have been obvious to one of ordinary skill in the art at the time the invention was made

to modify Maturi by synchronizing events another than audio and video as taught by

Srinivasan in order to enhance the main video stream an incorporating metadata

thereby increasing interactivity and enabling the user to select and review portions of

video presentations (Srinivasan: col. 3, ll. 8-23, col. 3, ll. 42-52).

Regarding claim 31, Maturi teaches the SCR and PCD (col. 3, ll. 31-35) as a

system time. Maturi teaches the clock as a counter (col. 7, ll. 22-27). Maturi teaches

the STC derived from SCR or PCR (col. 3, ll. 31-43), which is divided to reduce the

resolution. Maturi teaches a comparator (fig. 10, label 42, fig. 11, label 42), and the pre-

parser (22) and post-parser (24) clearly have registers in order to process the audio

decoding in less than one frame time interval different from the counter (col. 7, ll. 37-

40). As described previously in the rejection, there exist PTS and presentation units

(PU) which are not necessarily sent together, which equate to the first, second, and

third data unit presentation moments (col. 1-2, ll. 66-4), which are clearly depacketized

in order to retrieve the data. The system of Maturi provides the time recovery unit and

the presentation units (fig. 3).

Maturi teaches an application time moment as a function of STC, however, Maturi is silent on the moment being based in part upon a delay in the packetization process. In analogous art, Kim teaches adding an offset corresponding to the interval between a coding start time point in the encoder and a time point that a stamp is coded in the transport stream (col. 4, ll. 17-24), which reads on a delay in the packetization process. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maturi by using an offset based in part upon a delay in the packetization process as taught by Kim in order to enable precise synchronization among streams.

Maturi teaches the events being audio and video, but is silent on an event apart from reconstructing video and audio. In analogous art, Srinivasan teaches integrating an event, such as host spots and interactive regions (col. 37, ll. 3-6) in order to present metadata during a frame or series of frames (col. 37, ll. 35-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maturi by synchronizing events another than audio and video as taught by Srinivasan in order to enhance the main video stream an incorporating metadata thereby increasing interactivity and enabling the user to select and review portions of video presentations (Srinivasan: col. 3, ll. 8-23, col. 3, ll. 42-52).

Regarding claim 32, the combination of Maturi and Srinivasan teaches a descriptor of an event.

Regarding claim 33, Maturi teaches receiving a payload of the data unit comprising application time sample, which is clearly generated via the encoder and is

sent downstream (col. 1, ll. 45-54). Maturi is silent on a data server. Official Notice is

taken that a data server constructing payloads is well known in the art. Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was

made to modify Maturi by implementing a data server in order to create the data that is

sent downstream thereby providing the proper PTS information to properly synchronize

events with the video. Further, Maturi teaches a multiplexer adding a heading

comprising said second data unit presentation time (col. 1-2, ll. 66-4, col. 2, ll. 55-59,

col. 4, ll. 40-47).

4.   Claims 2-17, 27, and 28 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent 5,559,999 to Maturi et al. (Maturi) in view of U.S. Patent

5,521,927 to Kim et al. (Kim).

Regarding claim 2, Maturi teaches instigating an event such as synchronizing the

audio with the video (Abstract). Maturi teaches a system time clock (STC) located and

provided in the decoder, a system clock reference (SCR) as used in MPEG-I or

Program Clock Reference (PCR) as used in MPEG-II which is the clock reference given

by the encoder (col. 2, ll. 14-22). Along with the time clocks, Maturi teaches a

Presentation Time Stamp (PTS) which indicates the proper presentation of data (col. 1,

ll. 62-65). Maturi teaches an audio/video decoder as shown in figure 1, which generates

a reconstructed application includes time to initiate the event (col. 7, ll. 28-36). The time

to initiate the event (claimed application time moment) is a function of STC (claimed

current moment of a system time), a PTS (claimed sampled application time moment),

and decoding time stamp (DTS) which is associated with a sampled moment of a system time associated with sample application time moment. Maturi teaches associating the event and instant with a correlating application time, where the instant is less than one frame time interval different (col. 7, II. 37-40) and application time is correlated with a presentation moment of system time as discussed above. Maturi teaches performing the action once the time is less than one frame time interval different (col. 7, II. 37-40).

Maturi teaches an application time moment as a function of STC, however, Maturi is silent on the moment being based in part upon a delay in the packetization process. In analogous art, Kim teaches adding an offset corresponding to the interval between a coding start time point in the encoder and a time point that a stamp is coded in the transport stream (col. 4, II. 17-24), which reads on a delay in the packetization process. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maturi by using an offset based in part upon a delay in the packetization process as taught by Kim in order to enable precise synchronization among streams.

Regarding claim 3, Maturi teaches a Decoding Time Stamp (DTS) which incorporating a sample moment of the application time in a data unit to be presented at the presentation moment approximately corresponding to sample moment of the system time by taking the difference of the fixed decoding time from the PTS (col. 7, II. 34-36).

Regarding claim 4, Maturi teaches incorporating the instant at approximately said correlating time, where the data unit is to be presented at the presentation moment (col. 7, ll. 34-40).

Regarding claim 5, Maturi teaches presenting the event at the presentation moment at the instant of the presentation moment, when the instant is less than one frame interval different (col. 7, ll. 40-37).

Regarding claim 6, Maturi teaches synchronizing the audio (claimed event) to the video elements (col. 3, ll. 25-30). Maturi teaches associating a Presentation Time Stamp (PTS) with a System Clock Reference (SCR) or a Program Clock Reference (PCR) (col. 2, ll. 13-21), which equates to associating a sample application time moment with a sample system time moment. Further, Maturi teaches using the PTS and SCR/PCR to synchronize the reconstructed local clock, which is the System Time Clock (STC), which as taught by Maturi manages both the audio and video and consequently reads on both the claimed application and system clock (col. 2, ll. 13-21, col. 3, ll. 21-24). Maturi teaches associating the audio (claimed event) and video (claimed instant of said program element) with a PTS (col. 7, ll. 22-27). Maturi teaches relating the application time and presentation moment by creating a Decoder Time Stamp (DTS), which is the PTS minus a fixed decoding time (col. 7, ll. 34-36). Maturi teaches instigating the audio at a time moment generated by the STC corresponding to the DTS (col. 7, ll. 34-45).

Maturi teaches an application time moment as a function of STC, however, Maturi is silent on the moment being based in part upon a delay in the packetization

process. In analogous art, Kim teaches adding an offset corresponding to the interval

between a coding start time point in the encoder and a time point that a stamp is coded

in the transport stream (col. 4, ll. 17-24), which reads on a delay in the packetization

process. Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Maturi by using an offset based in part upon a

delay in the packetization process as taught by Kim in order to enable precise

synchronization among streams.

Regarding claim 7, the system of Maturi uses the same STC for the application

time clock and system time clock, accordingly, the sample application time moment is in

the same data unit and is presented at the sample system time.

Regarding claim 8, Maturi teaches selecting a moment from an application

timeline generated by an application clock, where the audio PTS is sent downstream in

the program stream (col. 5, ll. 3-10). As discussed in claim 6, Maturi teaches

accounting for the time it takes to shift decode the audio and provides a DTS and

consequently incorporates this difference in order to timestamp the PTS for the proper

synchronization (col. 7, ll. 34-40).

Regarding claim 9, Maturi teaches comparing the STC (claimed current time

moment) to the PCR/SCR time moment in order to synchronize the overall system

clocks at the encoder and decoder (col. 7, ll. 22-27). As discussed in claim 7, clearly

the application clock and STC are set equal to each other at all times, which reads on

when said current system time moment corresponds to said same system time moment.

Regarding claim 10, Maturi teaches creating a DTS, which is the PTS minus a fixed decoding time, which permits the audio to be synchronized to the video to within a frame (col. 7, ll. 34-40).

Regarding claim 11, Maturi teaches presenting the data within a frame of the video (col. 7, ll. 34-40), which reads on said instant at said presentation moment of said system time.

Regarding claim 12, the limitations of claim 12 have been addressed in the discussion of claim 6, and the claim 12 adds the limitations of a second data unit, which is also taught by Maturi. Maturi teaches that PTS and access units are carried in different layers of the hierarchy and are not necessary sent together. Consequently, Maturi teaches transmitting access units to the receiver in a second data unit having a second presentation moment of system time associated with said correlating moment of the application time (col. 1-2, ll. 66-4, col. 2, ll. 22-35).

Regarding claim 13, the limitations of claim 13 have been addressed in the discussion of claims 6, 7, and 12.

Regarding claim 14, Maturi teaches comparing the STC (claimed current time moment) to the PCR/SCR time moment in order to synchronize the overall system clocks at the encoder and decoder (col. 7, ll. 22-27). As discussed in claim 7, clearly the application clock and STC are set equal to each other at all times, which reads on when said current system time moment corresponds to said same system time moment.

Regarding claim 15, Maturi teaches encoding the PTS, for indicating the presentation time, where the PTS is the time stamp associated with an access unit, which is all sent to the receiver (col. 1-2, II. 66-4).

Regarding claim 16, in the system of Maturi, video and audio data is constantly streaming downstream to the receiver; accordingly Maturi teaches receiving a third data unit and transmitting the third data unit to the receiver in a similar fashion as described for the second data unit.

Regarding claim 17, as discussed above with the relationship between access units and PTS, a third data unit can have a temporal relation to the first data unit presentation unit.

Regarding claim 27, Maturi teaches generating a system and application time (see discussion of claim 9) and selecting a PTS (claimed sample moment of the application time) at the encoder (col. 1, II. 62-65) and sending the data downstream to the user in a first data unit (col. 1-2, II. 66-4). Further, Maturi teaches generating a DTS, synchronized to the system time by the sample moment and first data unit presentation moment (col. 7, II. 34-37), further the examiner notes that by determining the DTS, the DTS is associated with the audio even and said instant of said video with a correlating moment of said application time, such as DTS = PTS – fixed decoding time; Maturi teaches presenting the system time in order to play the audio event synchronized with the video (col. 7, II. 22-40). In addition, fig 3 has a pre-parser 22 and a post-parser 24.

Maturi teaches an application time moment as a function of STC, however, Maturi is silent on the moment being based in part upon a delay in the packetization

process. In analogous art, Kim teaches adding an offset corresponding to the interval

between a coding start time point in the encoder and a time point that a stamp is coded

in the transport stream (col. 4, ll. 17-24), which reads on a delay in the packetization

process. Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Maturi by using an offset based in part upon a

delay in the packetization process as taught by Kim in order to enable precise

synchronization among streams.

Regarding claim 28, Maturi teaches a clock to reconstruct the event as shown in

fig. 10, 11, see also the discussion of claim 27.

5.   Claims 18-26, 34, and 35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent 5,559,999 to Maturi et al. (Maturi) in view of U.S. Patent

6,357,042 to Srinivasan et al. (Srinivasan).

Regarding claim 18, Maturi teaches generating a system and application time

(see discussion of claim 9) and selecting a PTS (claimed sample moment of the

application time) at the encoder (col. 1, ll. 62-65) and sending the data downstream to

the user in a first data unit (col. 1-2, ll. 66-4). Further, Maturi teaches generating a DTS,

synchronized to the system time by the sample moment and first data unit presentation

moment (col. 7, ll. 34-37), further the examiner notes that by determining the DTS, the

DTS is associated with the audio even and said instant of said video with a correlating

moment of said application time, such as DTS = PTS – fixed decoding time; Maturi

teaches presenting the system time in order to play the audio event synchronized with the video (col. 7, ll. 22-40).

Maturi teaches the events being audio and video, but is silent on an event apart from reconstructing video and audio. In analogous art, Srinivasan teaches integrating an event, such as host spots and interactive regions (col. 37, ll. 3-6) in order to present metadata during a frame or series of frames (col. 37, ll. 35-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maturi by synchronizing events another than audio and video as taught by Srinivasan in order to enhance the main video stream an incorporating metadata thereby increasing interactivity and enabling the user to select and review portions of video presentations (Srinivasan: col. 3, ll. 8-23, col. 3, ll. 42-52).

Regarding claim 19, the limitations of claim 19 have been addressed in the discussion of claim 14; claim 19 further adds the limitation of incrementing the reconstructed application time. Maturi teaches a STC which is incremented at 90 kHz (col. 7, ll. 22-27).

Regarding claims 20, Maturi teaches the SCR and PCD (col. 3, ll. 31-35) as a system time signal having a system time unit frequency. Maturi is silent on dividing the signal to produce a trigger signal having an application time unit frequency, while teaching the application time frequency, STC (col. 21-24). Official Notice is taken that dividing a clock is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maturi to divide the clock in order to derive another lower resolution clock in order to synchronize

playback thereby creating a more robust system. Maturi teaches the clock as a counter (col. 7, ll. 22-27).

Regarding claim 21, Maturi teaches a DTS, which is adjusted for a period required to create, said first data unit (col. 7, ll. 34-36).

Regarding claim 22, in the system of Maturi, video and audio data is constantly streaming downstream to the receiver; accordingly Maturi teaches receiving a second data unit and timestamping the second data unit to the receiver in a similar fashion as described for the first data unit.

Regarding claim 23, in the system of Maturi, video and audio data is constantly streaming downstream to the receiver; accordingly Maturi correlating a second data unit and transmitting the second data unit to the receiver in a similar fashion as described for the first data unit.

Regarding claim 24, clearly in a streaming system, the data unit is transmitted to the receiver prior to said reconstructed application time corresponding to said correlating moment in order to properly process the audio (col. 7, ll. 37-53).

Regarding claims 25 and 26, Maturi teaches continuously streaming audio and video, wherein the system has a temporal relationship to the first data unit presentation moment in order to re-create audio and video in the proper sequence.

Regarding claims 34 and 35, Maturi teaches the SCR and PCD (col. 3, ll. 31-35) as a system time. Maturi teaches the clock as a counter (col. 7, ll. 22-27). Maturi teaches the STC derived from SCR or PCR (col. 3, ll. 31-43), which is divided to reduce the resolution. Maturi teaches a comparator (fig. 10, label 42, fig. 11, label 42), and the

pre-parser (22) and post-parser (24) clearly have registers in order to process the audio

decoding in less than one frame time interval different from the counter (col. 7, ll. 37-

40). As described previously in the rejection, there exist PTS and presentation units

(PU) which are not necessarily sent together, which equate to the first, second, and

third data unit presentation moments (col. 1-2, ll. 66-4), which are clearly depacketized

in order to retrieve the data. The system of Maturi provides the time recovery unit and

the presentation units (fig. 3).

Maturi teaches the events being audio and video, but is silent on an event apart

from reconstructing video and audio. In analogous art, Srinivasan teaches integrating

an event, such as host spots and interactive regions (col. 37, ll. 3-6) in order to present

metadata during a frame or series of frames (col. 37, ll. 35-41). Therefore, it would

have been obvious to one of ordinary skill in the art at the time the invention was made

to modify Maturi by synchronizing events another than audio and video as taught by

Srinivasan in order to enhance the main video stream an incorporating metadata

thereby increasing interactivity and enabling the user to select and review portions of

video presentations (Srinivasan: col. 3, ll. 8-23, col. 3, ll. 42-52).

Maturi teaches generating a system and application time (see discussion of claim

9) and selecting a PTS (claimed sample moment of the application time) at the encoder

(col. 1, ll. 62-65) and sending the data downstream to the user in a first data unit (col. 1-

2, ll. 66-4). Further, Maturi teaches generating a DTS, synchronized to the system time

by the sample moment and first data unit presentation moment (col. 7, ll. 34-37), further

the examiner notes that by determining the DTS, the DTS is associated with the audio

even and said instant of said video with a correlating moment of said application time,

such as DTS = PTS – fixed decoding time; Maturi teaches presenting the system time in

order to play the audio event synchronized with the video (col. 7, II. 22-40). In addition,

fig 3 has a pre-parser 22 and a post-parser 24.

Conclusion

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andrew Y Koenig whose telephone number is (703)

306-0399. The examiner can normally be reached on M-Th (7:30 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Christopher Grant can be reached on (703) 305-4755. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

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CHRIS GRANT
PRIMARY EXAMINER